

ABSTRACT

A photo-catalyst containing titanium fluoride nitride comprising, $\text{Ti(IV)O}_a\text{N}_b\text{F}_c$ or a compound represented by $\text{MeTi(IV)O}_a\text{N}_b\text{F}_c$ prepared by doping at least one metal Me selected from the group consisting of alkali or alkaline earth metals on $\text{Ti(IV)O}_a\text{N}_b\text{F}_c$. (wherein, b is 0.1 to 1, c is 0.1 to 1 and a is a value to maintain Ti(IV) and is decided in relation to b and c.). The photo-catalyst containing titanium fluoride nitride is especially characterized by loading at least one promoter selected from the group consisting of Pt, Ni and Pd.